

## TWO NEW SPECIES OF NEMATINAE FROM MT. HELAN OF INNER MONGOLIA (HYMENOPTERA, TENTHREDINIDAE)

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**Abstract** Two new species of Nematinae of Tenthredinidae from Mt. Helan in Inner Mongolia are described: *Pristiphora spinivaleiceps* sp. nov. and *Priophorus fulvostigmatus* sp. nov. Type specimens of the new species are deposited in the Insect Collection of Central South University of Forestry and Technology, Changsha, Hunan, China.

### *Pristiphora spinivaleiceps* sp. nov. (Figs 1–9)

Female. Body length 6.0–6.5 mm. This new species is similar to *P. oligalucina* Wei, 2002, but differs from the latter in: labrum and clypeus entirely black, malar space distinctly narrower than distance between antennal sockets; median suture of prescutum obscure; petiole of hind anal cell 2 times as long as vein cu-a; circus not longer than sheath in dorsal view; lancet with 17 annuli, 2nd to 12th annuli with distinct annular spines; middle serrulae each with 7–9 fine subbasal teeth (In *P. oligalucina*, anterior 2/3 of clypeus and labrum pale brown; malar space not narrower than distance between antennal sockets; median suture of prescutum distinct; petiole of hind anal cell 1.5 times as long as vein cu-a; circus distinctly longer than sheath in dorsal view; lancet with 13 annuli, without annular spines; middle serrulae each with 25–30 subbasal teeth).

Holotype ♀, Shatangzi, Halawu, Mt. Helan (38°51'N, 105°55'E; alt. 2 400 m), Inner Mongolia, China, 4 Aug. 2010, LI Ze-Jian and XUE Jun-Zhe leg. Paratypes: 1 ♀, Luanchaigou, Gulaben, Mt. Helan, alt. 2 300 m, Inner Mongolia, China, 1 Aug. 2010, LI Ze-Jian and XUE Jun-Zhe leg.; 3 ♀ ♀, 12 ♂ ♂, Shatangzi, Halawu, Mt. Helan, alt. 2 400 m, Inner Mongolia, China, 3–4 Aug. 2010, LI Ze-Jian and XUE Jun-Zhe leg.; 3 ♀ ♀, Jinhekou, Yuxian County, alt. 1 800 m, Hebei Province, China, 30 July 2000, BU Wen-Jun leg.; 3 ♀ ♀, 2 ♂ ♂, Mt. Wuling, alt. 1 850 m, Hebei Province, China, 21 June 1995, LV Nan leg.; 1 ♂, Shisanling, Changping, Beijing, 24 July 1956, QIN Bing-Yi leg.

**Key words** Hymenoptera, Nematinae, *Pristiphora*, *Priophorus*, new species, China.

### *Priophorus fulvostigmatus* sp. nov. (Figs 10–20)

Female. Body length 6.0 mm. This new species is similar to *P. hyalopterus* Jakovlev, 1891, but differs from the latter in: the basal 2/3 of forewing distinctly infusate and hyaline in apical third; pterostigma pale brown; the 9<sup>th</sup> abdominal tergite entirely covered by the 8<sup>th</sup> tergite; setae on lateral sides of sheath long and curved, extending backwards, almost parallel (In *P. hyalopterus* the entire forewing hyaline, not infusate; pterostigma milky white; the 9<sup>th</sup> abdominal tergite distinctly exposed, not entirely covered by the 8<sup>th</sup> tergite; setae on lateral sides of sheath short, hardly curved, extending outwards, distinctly divergent backward).

Holotype ♀, Ganshuwan, Gulaben, Mt. Helan (38°59'N, 106°02'E; alt. 2 300 m), Inner Mongolia, China, 31 July 2010, LI Ze-Jian and XUE Jun-Zhe leg. Paratypes: 19 ♀ ♀, 54 ♂ ♂, data same as holotype; 41 ♀ ♀, 36 ♂ ♂, Hougou, Shuimogou, Mt. Helan, alt. 2 600 m, Inner Mongolia, China, 9 Aug. 2010, LI Ze-Jian and XUE Jun-Zhe leg.; 8 ♀ ♀, 4 ♂ ♂, Luanchaigou, Gulaben, Mt. Helan, alt. 2 300 m, Inner Mongolia, China, 1 Aug. 2010, LI Ze-Jian and XUE Jun-Zhe leg.; 2 ♀ ♀, 2 ♂ ♂, Zhenggou, Shuimogou, Mt. Helan, alt. 2 380 m, Inner Mongolia, China, 10 Aug. 2010, LI Ze-Jian and XUE Jun-Zhe leg.; 2 ♂ ♂, Huangtuliangzi, Halawu, Mt. Helan, alt. 2 900 m, Inner Mongolia, China, 5 Aug. 2010, LI Ze-Jian and XUE Jun-Zhe leg.; 1 ♀, Chagou, Halawu, Mt. Helan, alt. 2 300 m, Inner Mongolia, China, 6 Aug. 2010, LI Ze-Jian and XUE Jun-Zhe leg.; 1 ♀, Shatangzi, Halawu, Mt. Helan, alt. 2 400 m, Inner Mongolia, China, 4 Aug. 2010, LI Ze-Jian and XUE Jun-Zhe leg.; 1 ♂, Xiangchizi, Gulaben, Mt. Helan, alt. 2 100 m, Inner Mongolia, China, 2 Aug. 2010, LI Ze-Jian and XUE Jun-Zhe leg.; 1 ♂, Kezhongyouqi, Inner Mongolia, China, 19 Aug. 1990; 1 ♂, Beigou, Halawu, Mt. Helan, Azuoqi, Inner Mongolia, China, 26 July 1984.

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## 内蒙古贺兰山突瓣叶蜂亚科两新种 (膜翅目, 叶蜂科)

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**摘要** 记述采自内蒙古贺兰山的中国突瓣叶蜂亚科2新种: 刺瓣槌缘叶蜂 *Pristiphora spinivalviceps* sp. nov. 和褐痣拟栉叶蜂 *Priophorus fulvostigmatus* sp. nov.。新种模式标本保存于湖南长沙中南林业科技大学昆虫模式标本室。

**关键词** 膜翅目, 突瓣叶蜂亚科, 槌缘叶蜂属, 拟栉叶蜂属, 新种, 中国。

**中图分类号** Q969.542.6

槌缘叶蜂属 *Pristiphora* Latreille, 1810 和拟栉叶蜂属 *Priophorus* Dahlbom, 1835 隶属于膜翅目 Hymenoptera、叶蜂科 Tenthredinidae、突瓣叶蜂亚科 Nematinae。据作者统计, 槌缘叶蜂属目前是叶蜂科第4大属, 全世界已知种类超过230种; 拟栉叶蜂属比较小, 已知20余种。目前, 槌缘叶蜂属在中国已经记载29种 (Rohwer, 1916; Wong, 1977; 魏美才, 1995; 魏美才和聂海燕, 1998, 1999, 2002, 2003); 拟栉叶蜂属在中国已经记载14种 (魏美才, 1995; 魏美才和聂海燕, 1998b, 1999, 2002, 2003; 魏美才, 2006)。在研究内蒙古贺兰山叶蜂分类区系过程中, 发现突瓣叶蜂亚科两新种, 报道如下。

### 1 刺瓣槌缘叶蜂, 新种 *Pristiphora spinivalviceps* sp. nov. (图1~9)

♀ 体长6.0~6.5 mm。体和足黑色; 口须污褐色, 前足股节端部2/3、中足股节端部、后足股节端缘、前中足胫节和跗节、后足胫节基部4/5黄褐色, 后足基跗节基部2/3浅褐色, 前足和中足胫节的端缘窄环、前足和中足第1~4跗分节端缘窄环及第5跗分节大部、后足胫节端部1/5、后足基跗节端部和其余跗分节大部黑褐色。体毛浅褐色, 鞘毛银褐色, 触角和翅面细毛黑色。翅基部2/3深烟褐色, 端部1/3渐变浅烟灰色, 翅痣和翅脉黑褐色 (图1)。

体大部光滑, 具较强光泽; 额区、内眶大部、单眼区、单眼后区前部具较密集的毛瘤, 前胸背板背侧具细密刻纹, 中胸背板和侧板光滑, 无刻点和刻纹; 腹部各节背板具不明显的微细刻纹。

唇基较短, 中部长约1.5倍于前单眼直径, 前半部平坦, 后半部显著隆起, 端部具极浅的弧形缺口; 上唇宽约2倍于长, 端部圆钝; 复眼较小, 内缘向下平行, 间距1.4倍于复眼高; 颞眼距1.1倍于中单眼直径, 0.7倍于触角窝间距; 中窝浅弱; 额区平坦,

不隆起, 无明显额脊; 单眼中沟和后沟阙如, 无中单眼前凹; 单眼后区明显隆起, 宽长比约等于3; 侧沟浅弱模糊, 约等长于侧单眼直径, 向后微弱分歧; 背面观后头约等长于复眼1/2, 两侧稍收缩。触角等长于头胸部和腹部1、2背板之和, 稍短于前翅C脉和翅痣之和, 端部稍细尖, 第2、3、4节长度之比为15:15:14, 第3节明显短于复眼长径(3:4), 但稍长于复眼横径(13:11)。中胸背板前叶中纵沟浅弱模糊; 小盾片平坦, 前端角弱弧形突出; 附片十分宽大, 长于小盾片1/2(8:13); 中胸侧板和腹板细毛连续分布, 无光裸横带。前足胫节内侧端距0.4倍于前足基跗节长, 前基跗节稍短于其后3跗分节之和; 后足胫节内端距0.5倍于后基跗节长, 后基跗节等长于其后3跗分节之和; 爪内齿微小 (图6)。前翅M脉亚基部显著弯曲, 与1r-m脉向翅痣强烈收敛, 2Rs室长1.3倍于宽, R+M脉微长于M脉第1段, cu-a脉亚中位; 后翅臀室柄长几乎2倍于cu-a脉长(11:6), 3倍于臀室宽, cu-a脉上端稍内倾。锯鞘背面观明显宽于后足胫节端部, 中突短小, 侧突明显, 伸向外后方; 尾须细, 端部较尖, 不伸出锯鞘末端, 长宽比约等于4, 锯鞘背面观如图 (图7)。锯腹片共17锯节 (图3), 第2~12锯节节缝栉刺毛列明显, 其余各锯节无节缝栉刺毛列, 第1锯节中部宽微弱宽于第2锯节, 第2~6节缝下端稍弯曲, 第7~11节缝上端向前弯曲, 下端几乎不弯曲, 锯基腹索踵前端具粗长斜突; 锯齿倾斜突出, 亚基齿极细小、模糊, 7~9枚, 中部锯齿如图 (图8)。

♂ 体长5.5 mm; 体色和构造类似雌虫 (图2), 但后足胫节端部1/3~1/2和后足跗节全部黑褐色; 触角鞭节中基部显著膨大侧扁, 具短直立毛; 下生殖板宽大于长, 端部圆形突出; 阳茎瓣如图 (图4), 阳茎瓣头叶的背叶窄长, 端部明显弯曲, 腹刺突

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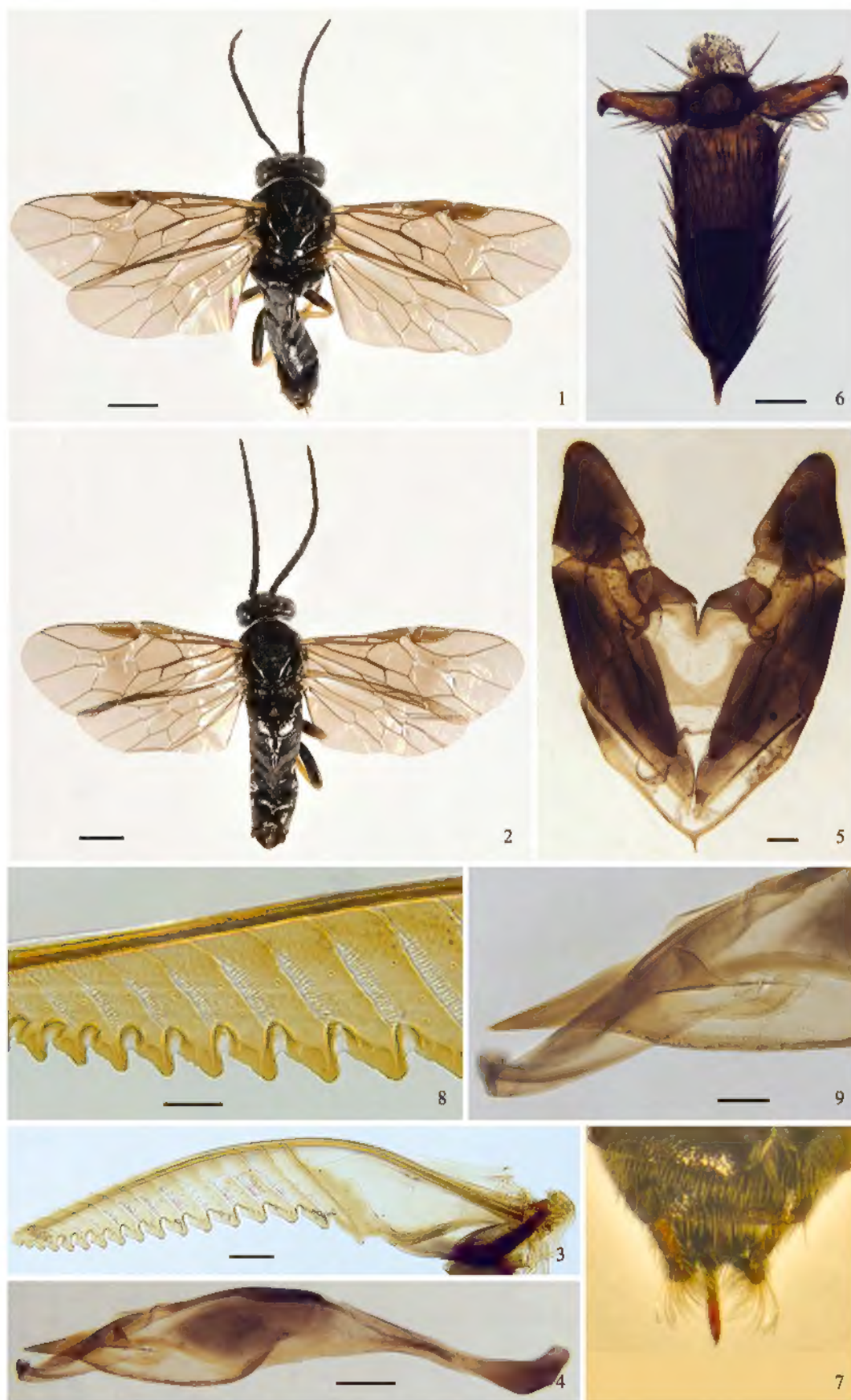


图 1~9 刺瓣槌缘叶蜂, 新种 *Pristiphora spinivakriiceps* sp. nov.

1. 雌成虫背面观 (female, dorsal view) 2. 雄成虫背面观 (male, dorsal view) 3. 锯腹片 (lancet) 4. 阳茎瓣 (penis valve) 5. 生殖铗 (gonoforceps) 6. 雌成虫后足爪 (female, claw of hind leg) 7. 锯鞘背面观 (sheath, dorsal view) 8. 中部锯刃 (middle serrulae) 9. 瓣头刺 (valvar spine) 比例尺 (scale bars): 1~2 = 1 mm; 3~5 = 100  $\mu$ m; 6, 8~9 = 50  $\mu$ m



窄长三角形,不弯曲,阳茎瓣头叶亚端部具1端部稍弯曲的短三角形刺突,伸向背侧(图9);生殖缺如图(图5),抱器短小,近似三角形,端部窄。

词源:“*spinivabriceps*”指本种阳茎瓣头叶具短刺突。

正模♀,内蒙古贺兰山哈拉乌沙塘子(38°51'N, 105°55'E;海拔2400 m),2010-08-04,李泽建,薛俊哲采。副模:1♀,内蒙古贺兰山古拉本乱柴沟(38°59'N, 106°00'E;海拔2300 m),2010-08-01,李泽建,薛俊哲采;3♀♀,12♂♂,内蒙古贺兰山哈拉乌沙塘子(38°51'N, 105°55'E;海拔2400 m),2010-08-03~04,李泽建,薛俊哲采;3♀♀,河北蔚县金河口,海拔1800 m,2000-08-30,卜文俊采;3♀♀,2♂♂,河北雾灵山,海拔1850 m,1995-06-21,吕楠采;1♂,北京昌平十三陵,1956-07-24,覃秉益采。

分布:内蒙古(贺兰山),河北(雾灵山)。

鉴别特征 本种与 *P. oligalucina* Wei, 2002 较为近似,但本种上唇全部黑褐色;颧眼距显著窄于触角窝间距;中胸背板前叶中纵沟细弱模糊;后翅臀室柄2倍长于cu-a脉;尾须不伸出锯鞘末端;锯腹片共17节,第2~12锯节节缝带刺毛列明显,其余各锯节无节缝带刺毛列,锯刃亚基齿细弱,7~9枚(后者上唇端部2/3浅褐色;颧眼距等宽于触角窝间距;中胸背板前叶中纵沟明显;后翅臀室柄1.5倍于cu-a脉长;尾须明显伸出锯鞘末端;锯腹片共13节,均无节缝带刺毛列,锯刃亚基齿25~30枚)。

## 2 褐痣拟栉叶蜂,新种 *Priophorus fulvostigmatus* sp. nov. (图10~20)

♀ 体长6.0 mm。体亮黑色,口须污褐色,翅基片外缘狭边黄褐色,腹部第10背板后缘狭边褐白色,尾须浅褐色;足黄褐色,各足基节、转节、前中足股节基半部、后足股节基部2/3黑色,后足第2转节部分褐色。体毛银色,触角毛黑色,锯鞘毛银褐色。翅基部2/3浓烟褐色,端部1/3渐透明,翅痣和前缘脉浅黄褐色,其余翅脉大部黑褐色;后翅大部烟褐色,端缘稍淡(图10)。

体大部光滑,具强光泽;唇基和后眶下部刻点粗大、稍密集;颜面、内眶、前胸背板背侧具较细密的小刻点;头部额脊、中胸背板前叶和侧叶局部具稀疏小刻点和模糊刻纹,中胸小盾片光滑,具十分稀疏、细弱小刻点,虫体其余部分无刻点和毛瘤,腹部背板无明显刻纹。

唇基较长,具短弱中纵脊,端缘薄,具浅弧形缺口;颧眼距0.5倍于触角窝间距,等宽于侧单眼直

径;复眼较小,内缘向下相互平行,间距1.5倍于复眼高;中窝较浅小,亚圆形,封闭;额区低台状隆起,中部稍凹,额脊稍隆起,较宽钝;单眼中沟宽浅,单眼后沟模糊;单眼后区微弱隆起,宽长比等于2;侧沟稍深,稍长于侧单眼直径,互相平行;背面观后头两侧不明显收缩,约0.8倍于复眼长;后眶稍宽,0.9倍于复眼横径。触角细长(图17),等长于头胸部和腹部1~3背板之和,等长于前翅C脉和翅痣之和,第3、4、5节长度比为17:19:18,第3节细长,不弯曲,基部无侧突。前足基跗节等长于其后2个跗分节之和;后足胫节端距0.8倍于胫节端部宽,0.35倍于后基跗节长,基跗节微短于其后3跗分节之和(图13);爪细长,无基片,内齿微小,远离端齿(图14)。中胸小盾片附片宽大平滑;中胸前侧片下部具十分宽阔的光滑区域,其上仅具几根刺毛,侧板细毛和腹板细毛分布不连续。前翅cu-a脉交于M室下缘中部稍偏外侧,2m-cu脉交于2Rs下缘内侧2/7, M脉几乎不弯曲;臀室收缩中柄等长于基臀室,2Rs室稍长于1Rs室,1R<sub>1</sub>室微小。后翅臀室柄2.2倍于cu-a脉长,1.3倍于臀室宽。尾须短小,长宽比等于2。锯鞘背面观中后部膨大,向两侧稍尖出,具短小但尖锐的中齿,鞘毛不短于锯鞘宽,明显弯曲,伸向后方(图15)。锯腹片共9个锯节(图19),第1节缝长直,上端明显向后倾斜,无齿突,与第2节缝向下显著收敛;第1锯节稍短于第2锯节;第2节缝较直,中部向内微弱弯曲,第2、3锯节高长比近等于2;第3~5锯刃腹缘强烈凹入。

♂ 体长6.0 mm;体色和构造类似雌虫(图11),但触角明显长于虫体,稍长于前翅(图18),鞭节具黑色立毛;腹部第8节背板中部向后强烈突出(图16),第9背板完全被第8背板覆盖;下生殖板长几乎2倍于宽,中部鼓出,端部窄圆;阳茎瓣背缘膜叶十分宽大,端部稍尖,中部刺突亚基部几乎不弯曲,约2倍于腹侧刺突长,腹侧刺突短小,端部弯曲(图20);生殖缺如图(图12),抱器内缘亚基部具1弧形浅弱缺口。

词源:“*fulvostigmatus*”指本种前翅翅痣浅褐色。

正模♀,内蒙古贺兰山古拉本甘树湾(38°59'N, 106°02'E;海拔2300 m),2010-07-31,李泽建,薛俊哲采。副模:19♀♀,54♂♂,内蒙古贺兰山古拉本甘树湾(38°59'N, 106°02'E;海拔2300 m),2010-07-31,李泽建,薛俊哲采;41♀♀,36♂♂,内蒙古贺兰山水磨沟后沟(38°56'N, 105°58'E;海拔2600 m),2010-08-09,李泽建,薛俊哲采;8♀♀,4♂♂,内蒙古贺兰山古拉本乱柴沟(38°59'N, 106°00'E;海拔2300 m),2010-08-01,李泽建,薛俊



图 10~20 黄痣拟栉叶蜂, 新种 *Priophorus fuvostignatus* sp. nov.

10. 雌成虫背面观 (female, dorsal view) 11. 雄成虫背面观 (male, dorsal view) 12. 生殖铗 (gonoforceps) 13. 雌成虫后足跗节 (female, tarsi of hind leg) 14. 雌成虫后足爪 (female, claw of hind leg) 15. 锯鞘背面观 (sheath, dorsal view) 16. 雄虫第 8 节背板 (male, 8<sup>th</sup> abdominal tergite) 17. 雌虫触角 (female, antenna) 18. 雄虫触角 (male, antenna) 19. 锯腹片 (lancet) 20. 阴茎瓣 (penis valve) 比例尺 (scale bars): 10~11 = 1 mm; 12~13, 19~20 = 100  $\mu$ m; 14 = 50  $\mu$ m

哲采; 2 ♀♀, 2 ♂♂, 内蒙古贺兰山水磨沟正沟 (38°55'N, 105°57'E; 海拔 2 380 m), 2010-08-10, 李泽建, 薛俊哲采; 2 ♂♂, 内蒙古贺兰山哈拉乌黄土梁子 (38°53'N, 105°57'E; 海拔 2 900 m), 2010-08-05, 李泽建, 薛俊哲采; 1 ♀, 内蒙古贺兰山哈拉乌岔沟 (38°51'N, 105°53'E; 海拔 2 300 m), 2010-08-06, 李泽建, 薛俊哲采; 1 ♀, 内蒙古贺兰山哈拉乌沙塘子 (38°51'N, 105°55'E; 海拔 2 400 m), 2010-08-04, 李泽建, 薛俊哲采; 1 ♂, 内蒙古贺兰山古拉本香池子 (38°59'N, 105°55'E; 海拔 2 100 m), 2010-08-02, 李泽建, 薛俊哲采; 1 ♂, 科右中旗, 1990-08-19; 1 ♂, 阿左旗贺兰山哈拉乌北沟, 1984-07-26。

分布: 内蒙古 (贺兰山)。

鉴别特征 本种与 *P. hyalopterus* Jakovlev, 1891 最近似, 但两性前翅基部 2/3 显著烟褐色, 端部 1/3 较透明; 翅痣浅褐色; 雄虫第 9 背板完全被第 8 背板覆盖; 雌虫锯鞘细毛较长, 明显弯曲, 伸向后方 (后者两性前翅透明, 基部无烟斑, 翅痣乳白色; 雄虫第 9 背板明显露于第 8 背板; 雌虫锯鞘细毛短, 较直, 伸向外后方)。

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